ACC NR: AP6003338

Pg and Lpc in the polar regions. Simultaneous excitations of stable variations occur in the polar regions during equinoxes and very seldom during solstices.

Regular stable variations are typical of polar and other latitudes. Stable variations of type Lpc occur mostly in the polar regions. Their vibrations last 3—7 min. This type of variation takes place in middle latitudes only in magnetic storms, appearing mostly at noon. Rapid irregular variations of type Pil occur with high intensity in the auroral zone where their amplitude reaches hundreds of mv/km. The amplitude of Pil variations diminishes rapidly to the north and south of the auroral zone. This type of variation occurs before midnight and in the morning hours. The Pil-type variations are very much associated with auroras. The appearance of these variations testifies to the development of auroral processes in the upper atmosphere.

Special interest was aroused by the pearl-shaped variations. Figure 1 shows this type of variation which was obtained on 6 August 1964 at Tiksi Station. Long-term records at USSR observatories made it possible



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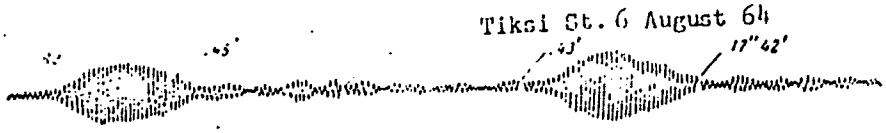



Fig. 1. Pearl-shaped magnetic vibrations

to conclude that the frequency of appearance of these variations increases with the decrease of the latitude of the observation point. This kind of variation occurs in magnetically coupled regions. The formation of pearl-shaped variations is hypothesized to be a movement of accumulated particles around a magnetic force line. Traveling from one hemisphere to the other along the force line between magnetically coupled points, the particle cluster increases the intensity of the magnetic field in the direction towards which the cluster moves while decreasing the magnetic field intensity behind it. The increased field causes intense vibrations which form the pearl. Another hypothesis explains this formation by magnetohydrodynamic waves which propagate from one hemisphere to the other.

L 42084-66
ACC NR: AP6003338

Experimental simultaneous observations were carried out in two magnetically coupled points, Sogra in the USSR and on the French island of Kergelen in the Indian Ocean. Processing of recorded data led to the following conclusions: 1) Maxima of individual pearls in opposite hemispheres are shifted by a half-period. Periods of envelopes over the pearls are preserved in both hemispheres. 2) No delay in phases was observed when the movement was from east to west. 3) Periods of pearl formation in coupled regions are equal. These data cannot be considered as a support of either the first or the second hypothesis.

Orig. art. has: 3 figures. [ATD PRESS: 4172-F]

SUB CODE: 08, 03 / DATE SUBM: 08Apr64 / ORIG REF: 004 / OTH REF: 006

Card 4/4 af

ACC NR: AP6018919 SOURCE CODE: UR/0203/66/006/003/0533/0540

AUTHOR: Troitskaya, V. A.; Bol'shakova, O. V.; Matveyeva, E. T.

ORG: Institute of Physics of the Earth, AN SSSR (Institut fiziki zemli AN SSSR)

TITLE: Sudden electromagnetic field variations as an indicator of the state of the radiation belts and the magnetosphere of the earth

SOURCE: Geomagnetizm i aeronomiya, v. 6, no. 3, 1966, 533-540

TOPIC TAGS: ~~Van Allen~~ radiation belt, geomagnetic measurement, geomagnetic field, magnetosphere, electromagnetic field, scientific spacecraft

ABSTRACT: Changes in the position of the boundary between the magnetosphere and the external radiation belts, brought about by excited stable oscillations and intensity changes in the belts as a function of excited irregular short-period oscillations, are investigated. The measurements were made by Electron-1, Electron-2, and Explorer-XII satellites. The data show that: 1) The boundary between the magnetosphere and the radiation belts fluctuates about its mean position $\sim 10R_e$, where $R_e$ is the radius of the earth; 2) Geomagnetic field oscillations of Pc4 type (50-150 sec) are observed when the boundary is located at a distance of $10R_e$ or more; 3) Geomagnetic field oscillations of Pc2 and Pc3 types (5-40 sec) appear when the boundary moves toward the earth; 4) The extremum values of the boundary positions vary from 7.5 $R_e$ to 12.5 $R_e$;

UDC: 550.385

Card 1/2

L 42111-66

ACC NR: AP6018919

5) Periods of stable oscillations (T) are proportional to $R^5$, where R is a radius of the magnetosphere; 6) The existence of stable oscillations (Pc) in the main storm phase may indicate that the compression of the magnetosphere continues during this phase; 7) Intensity changes in the radiation belts are closely connected with the introduction of charged particles into the upper atmospheric layers; and 8) The presence of irregular short-period oscillations of "pearl" type (Pcl) is connected with sharp intensity changes in the radiation belts. Orig. art. has: 9 figures. [14]

SUB CODE: 08,22/ SUBM DATE: 14Aug65/ ORIG REF: 008/ OTH REF: 005

ATD PRESS: 5063

Card 2/2

L 07363-67 EWT(1) GW/WS-2
ACC NR: AP6033272 SOURCE CODE: UR/0020/66/170/004/0835/0836

AUTHOR: Kleymenova, N. G.; Troitskaya, V. A.; Zhandren, R.; Ponso, K.; Vineron, Zh.

ORG: Institute of Physics of the Earth im. O. Yu. Shmidt, Academy of Sciences SSSR (Institut fiziki Zemli Akademii nauk SSSR); Central Institute of Telecommunications, Paris, France (Tsentral'nyy institut telekommunikatsii)

TITLE: Observing the ultralow-frequency radiation from two conjugate points 36 B

SOURCE: AN SSSR. Doklady, v. 170, no. 4, 1966, 835-836

TOPIC TAGS: atmospherics, upper atmospheric radiation, magnetic storm, exosphere

ABSTRACT: Joint French-Soviet investigation of ultralow-frequency radiation in the 1.5—3kc range was conducted from July 1964 to March 1965 at two stations (Sorga in the Soviet Union and Kerguelen in the Indian Ocean). The radiation was continuously monitored on paper track recorders. The simultaneously recorded data indicates that whistler atmospherics seldom occur at the same time at both stations, whereas the occurrence of hissing static activity (recorded 38 times) and its strength were correlated at both stations. In all of the observed instances (11 times) the increased whistler atmospherics activity gave a 14—18 hr forewarning of an impending negative ionospheric storm. The positive ionospheric storms however were never detected by monitoring the activity of hissing static and whistler atmospherics. From other observations it was established that the conditions for the generation of ulf

UDC: 550.380

Card 1/2

L 02363-67
ACC NR: AP6033272

radiation in the exosphere are nonexistant during magnetically quiet periods when the boundary of the Earth's magnetosphere extends to approximately $10R_e$ where $R_e$ is the Earth's radius. The paper was presented by Academician B. P. Konstantinov on 24 June 1966. Orig. art. has: 2 figures.

SUB CODE: 04/ SUBM DATE: 08Jun66/ ORIG REF: 002/ OTH REF: 002/ ATD PRESS: 5101

Card 2/2 afs

L 28910-66 EWT(1)/FCC/FSS-2 TT/GW/JXT(CZ)

ACC NR: AP6019181 SOURCE CODE: UR/0030/65/000/008/0090/0091

67
65
B

AUTHOR: Troitskaya, V. A. (Doctor of physicomathematical sciences)

ORG: none

TITLE: Investigations of geomagnetism and earth currents

SOURCE: AN SSSR. Vestnik, no. 8, 1965, 90-91

TOPIC TAGS: geomagnetism, geophysic conference, artificial earth satellite, solar corpuscular radiation, magnetometer

ABSTRACT: An All-Union Conference on Geomagnetism and Earth Currents, called by the Interdepartmental Geophysical Committee, was held in Moscow during the period 13-21 April. It was attended by more than 200 specialists. There were seven scientific symposia; 120 reports were presented. It was noted that observations of a complex of electromagnetic phenomena at magnetically conjugate points are of great importance; such observations are being made at Sogra in Arkhangel'skaya Oblast and on Kerguelen Island in the Indian Ocean. These observations are being made by Soviet and French scientists. New data were presented on quiet geomagnetic variations; a dynamo theory of such variations has been proposed and their relationship to extra-ionospheric processes has been established. A magnetic survey using artificial earth satellites has begun. It was recommended that measurements of the magnetic field and other related phenomena of the electromagnetic complex be organized in the Arctic and in Antarctica at an increased number of stations, both permanent and automatic

Card 1/2

stations operating without observers present. Also recommended were synchronous observations of rapid variations of the magnetic field and related electromagnetic phenomena along long meridional and latitudinal profiles for solution of problems related to the organization of a ground service for observations of the concentration of plasma in circumterrestrial space and for tracing changes in the size of the magnetosphere under the influence of solar corpuscular streams. It was recommended that the observation program at Sogra and Kerguelen be expanded by adding vertical ionospheric sounding. It also is desirable to make similar observations at the magnetic longitude passing through the epicenter of the world magnetic anomaly in northeastern Asia. Attention should be given to the use of proton or quantum magnetometers for complete automation of variation stations, making it possible to obtain magnetic data in a form suitable for input into electronic computers. Instruments should be created for automatic analysis of magnetograms and telluro-grams and attachments should be devised making possible automatic recording of mean hourly values directly from quartz variometers. By 1966 it is recommended that quartz variometers be used throughout the USSR, replacing older types of instruments. In 1966 an All-Union Conference should be held to summarize the first results of the IQSY. [JPRS]

SUB CODE: 08, 03, 22 / SUBM DATE: none

TROITSKAYA, V.A.; MEL'NIKOVA, N.V.; BOL'SHAKOVA, O.V.; ROKITYANSKAYA, D.A.; BULATOVA, G.A.

Fine structure of magnetic storms. Izv. AN SSSR. Fiz. zem. no.6: 82-86 '65. (MIRA 18:7)

1. Institut fiziki zemli AN SSSR.

TROITSKAYA, V.A., doktor fiz.-mat.nauk

Study of geomagnetism and earth currents; all-Union conference in Moscow. Vest.AN SSSR 35 no.8:90-93 Ag '65. (MIRA 18:8)

L 52773-65 EWT(1) Po-4/Pi-4 GW

ACCESSION NR: AT5009974 UR/3010/65/000/014/0055/0066

AUTHOR: Troitskaya, V. A. 19 B+1

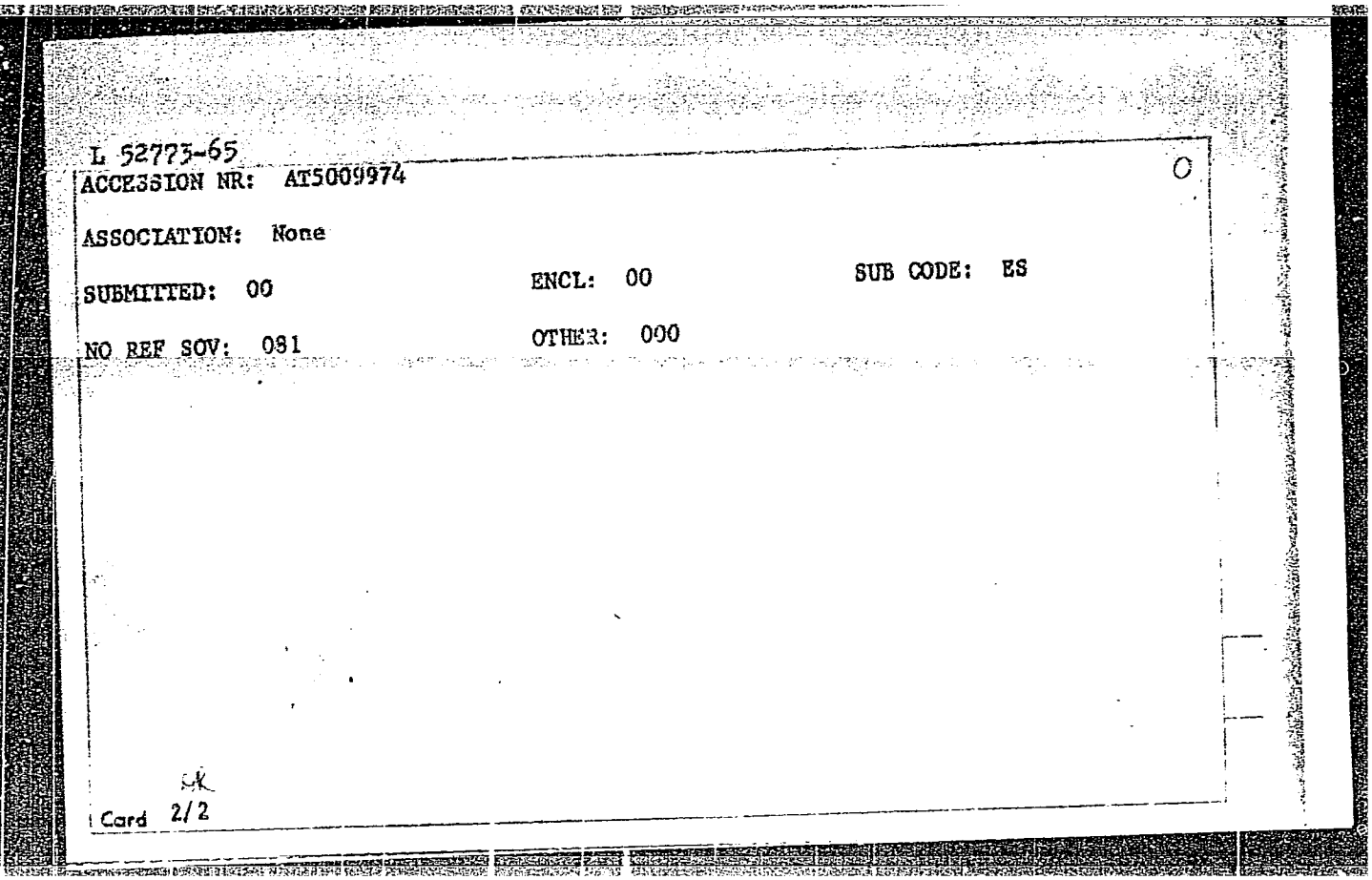
TITLE: Results of a study of the Earth's currents

SOURCE: AN SSSR. Mezhduvedomstvennyy geofizicheskiy komitet. Geofizicheskiy byulleten', no. 14, 1965, 55-66

TOPIC TAGS: IGY electric current study, Earth electric field, Earth current oscillation

ABSTRACT: After noting that the studies of the Earth's electric currents in the Soviet Union started essentially in connection with the IGY, the author describes the preliminary conference on short-period oscillation classification in Copenhagen in March of 1957. She then proceeds to: 1) describe the organization of electric current observations during the IGY, 2) present the general characteristics of the Earth's currents, 3) describe the fine structure of the perturbations and the new types of oscillations, 4) discuss the correlation investigations, 5) describe data from Arctic and Antarctic observations, and 6) discuss the short-period oscillation spectra and the nature of these oscillations.

Card 1/2



L 52773-65
ACCESSION NR: AT5009974 O

ASSOCIATION: None

SUBMITTED: 00 ENCL: 00 SUB CODE: ES

NO REF SOV: 081 OTHER: 000

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Card 2/2

TROITSKAYA, V.B.

TROITSKAYA, V.B.; TROYNIKOVA, A.D.

Effect of vagus and sympathetic nerves on secretory function of the pancreas. Trudy Inst. fiziol. 3:127-131 '54. (MLRA 8:2)

1. Laboratoriya fiziologii i patologii pishchevareniya i krovoobrashcheniya. Zaveduyushchiy A.V.Solov'yev.

(PANCREAS, physiology,
secretion, regulation by sympathetic & vagus nerves)
(NERVES, VAGUS, physiology,
regulation of pancreatic secretion)
(SYMPATHETIC NERVOUS SYSTEM, physiology,
regulation of pancreatic secretion)

TROITSKAYA, V.B.

Regulation of pancreatic secretion. Trudy Inst. fiziol. 7:527-532 '58. (MIRA 12:3)

1. Laboratoriya fiziologii pishchevareniya (zav. - A.V. Solov'yev). Instituta fiziologii im. I.P. Pavlova AN SSSR.
(PANCREAS--SECRETIONS)

MATROSOVA, Ye.M.; SOLOV'YEV, A.V.; TROITSKAYA, V.B.

Problems of digestion and nutrition in the work of K.M. Bykov. Trudy Inst. fiziol. 9:24-31 '60. (MIRA 14:3)

1. Laboratoriya fiziologii pishchevareniya (zaveduyushchiy - A.V. Solov'yev) Instituta fiziologii im. I.P.Pavlova.
(BYKOV, KONSTANTIN MIKHAILOVICH, 1886-)

SOLOV'YEV, A.V.; TROITSKAYA, V.B.

Bile secretion. Trudy Inst. fiziol. 9:133-138 '60. (MIRA 14:3)

1. Laboratoriya fiziologii pishchevareniya (zaveduyushchiy - A.V. Solov'yev) Instituta fiziologii im. I.P.Pavlova.
(BILE)

SOLOV'YEV, A.V.; TROITSKAYA, V.B.

Neurohumoral regulation of the secretory activity of the pancreas. Trudy Inst. fiziol. 9:495-502 '60. (MIRA 14:3)

1. Laboratoriya fiziologii pishchevareniya (zaveduyushchiy - A.V. Solov'yev) Instituta fiziologii im. I.P.Pavlova.
(PANCREAS--SECRETIONS) (NERVOUS SYSTEM)

TROITSKAYA, V.B.; FUNTIKOVA, Ye.K.

Secretory activity of the pancreas in the course of developing atrophy caused by fistula of the major duct. Fiziol.zhur. SSSR (MIRA 18:11) no.11:1327-1334 N '65.

1. Laboratoriya fiziologii pishchevareniya Instituta fiziologii imeni I.P.Pavlova AN SSSR, Leningrad.

TROITSKAYA, V.D., kand. med. nauk

Choice of surgical technique in simple and thyrotoxic goiter in the light of immediate and late results of treatment (experience with 1700 operations). Khirurgiia 39 no.9:57-62 S'63 (MIRA 17:3)

1. Iz kliniki obshchey khirurgii ( zav. - prof. A.I. Kozhevnikov) Gor'kovskogo meditsinskogo instituta.

TROITSKAYA, V. D.

Cand Med Sci - (diss) "Selection of an operative method in various forms of goiter." Gor'kiy, 1961. 19 pp;(Gor'kiy State Med Inst imeni S. M. Kirov); 300 copies; price not given; (KL, 6-61 sup, 241)

TROITSKAYA, V.D.

Treatment of Recklinghausen's disease by removing parathyroid adenoma. Probl. endok. i gorm. 10 no.4:59-62 Jl-Ag '64. (MIRA 18:6)

1. Klinika obshchey khirurgii (zav.- prof. A.I. Kozhevnikov) Gor'kovskogo meditsinskogo instituta.

TROITSKAYA, V.N.; LEYKINA, N.L.

Diagnosis and surgical treatment of insulomas. Vop. onk. 11 no.2: 16-22 '65. (MIRA 18:7)

1. I-y kafedry obshchey khirurgii (zav. - prof. A.I. Kozhevnikov) Gor'kovskogo meditsinskogo instituta i neyrokhirurgicheskogo otdeleniya (zav. - N.L. Leykina) Gor'kovskoy oblastnoy klinicheskoy bol'nitsy imeni N.A. Semashko.

TROITSKAYA, V.D.

Formation of true bone in a nodular goiter. Probl.endok.i gorm. 5 no.5:119-121 S-O '59. (MIRA 13:5)

1. Iz kliniki obshchey khirurgii (zav. - prof. A.I. Kozhevnikov) Gor'kovskogo meditsinskogo instituta (dir. - dotsent N.I. Mizinov) i Oblastnoy klinicheskoy bol'nits imeni N.A. Semashko (glavnyy vrach - zasluzhennyy vrach RSFSR K.I. Kuznetsov).
(GOITER compl.)
(OSSIFICATION)

TROITSKAYA, V. I.

32642. Izmeneniye sostoyaniya rybnykh zapasov ozera shchartash pod vozdeyst viem intencivnogo promysla. Trudy ural'skogo otd - niya (vsesoyuz. nauch. - issled. In-t ozer. I rech. Ryb. khoz-va), T. IV, 1949, s. 129 - 66. - Bibliogr: s. 165 - 66.

SO: Letopis' Zhurnal'nykh Statey, Vol. 44, Moskva, 1949

TROITSKAYA, V.I., prof., doktor sel'skokhozyaystvennykh nauk

Soil erosion and its control in Bashkiria. Okhr. prir. na Urale no.1:51-60 '60. (MIRA 14:4)

(Bashkiria--Erosion)

TROITSKAYA, V.I., kand.biologicheskikh nauk

Fish fauna of the waters of the Urals, its changes and conservation problems. Okhr. prir. na Urale no.1:47-49 '60. (MIRA 14:4)
(Ural Mountain region—Fishes)

KRYSHTAL', A.F. [Kryshtal', O.P.]; TROITSKAYA, V.I. [Troits'ka, V.I.]

Ivan Dmitrievich Belanovskii; obituary. Zbir. prats' Zool. muz. AN URSR no. 29:111-114 '60. (MIRA 14:4)
(Belanovskii, Ivan Dmitrievich, 1878-1958)

TROITSKAYA, V. I.

AUTHORS: Yagupol'skiy, L. M. and Troitskaya, V. I. 79-2-52/58

TITLE: Cyanine Dyes Containing Fluorine. Part 5. Synthesis of Cyanine Dyes from 5- and 6-Trifluoromethyoxy-Benzthiazoles (Tsianinovyye krasiteli soderzhashchiye ftor. V. Sintez tsianinovykh krasiteley iz 5- i 6-triftormetoksibenztiazolov)

PERIODICAL: Zhurnal Obshchey Khimii, 1957, vol 27, No 2, pp. 518-526 (U.S.S.R.)

ABSTRACT: In order to determine the effect of fluorine containing substitutes on the color and effectiveness of photo sensitizers, the authors synthesized 2-methyl-5- and 2-methyl-6-trifluoromethoxybenzthiazoles and derived a number of thiacarbocyanines from these bases. The entire synthesis process is described. From the quaternary salts of the benzthiazoles 8 thiacarbocyanines (with the trifluoromethoxy groups in positions 5 and 6 of the benzthiazole ring) were obtained. An effort to saponify the $OCF_3$-group in these compounds by heating with a 50% hydrobromic acid to 150° in a sealed flask yielded no result; the product remained unchanged. Boiling of the alcohol solution of the nitrochloro mixture with an alcohol sodium disulfide solution formed disulfide (small amounts). This proves that the main product obtained from the nitration of 4-chlorophenyltrifluoromethyl ether is an

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79-2-52/58

Cyanine Dyes Containing Fluorine. Part . Synthesis of Cyanine Dyes from 5- and 6-Trifluoromethyoxy-Benzthiazoles

isomer according to chemical formula (1). It was found that the adsorption maxima of thiacarboncyanines with the $OCF_3$ substitute are no different from the absorption maxima of nonsubstituted dyes.

1 table. There are 5 references, of which 3 are Slavic

ASSOCIATION: Academy of Sciences of Ukrainian -SSR, Institute of Organic Chemistry

PRESENTED BY:

SUBMITTED: March 13, 1956

AVAILABLE: Library of Congress

Card 2/2

AUTHORS: Yagupol'skiy, L. M., Troitskaya, V. I. SOV/79-29-2-42/71

TITLE: Fluor-containing Trichloro-phosphazo-sulfonaryls and Their Derivatives (Ftorsoderzhashchiye trikhlorfosfazosul'fonarily i ikh proizvodnyye)

PERIODICAL: Zhurnal obshchey khimii, 1959, Vol 29, Nr 2, pp 552-556 (USSR)

ABSTRACT: At present several active insecticides with fluorine atoms in the molecule (Ref 1) are known. Preparations, simultaneously containing fluorine and phosphorus atoms are of special interest. The synthesis and investigation of trichloro-phosphazo-sulfonaryls and their derivatives for such insecticides as contain fluorine atoms or trifluoro-methyl groups as substituents in the aromatic nucleus are the aim of the present article. For this purpose, the n-fluoro-benzene-sulfamide (Ref 3) and the hitherto unknown m-trifluoro-methyl-phenyl-sulfamide were synthesized. The latter was obtained according to the scheme

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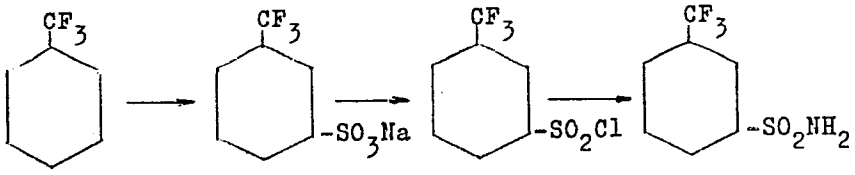
Fluor-containing Trichloro-phosphazo-sulfonaryls and Their Derivatives

SOV/79-29-2-42/71




Its structure was proved by transformation into m-carboxy-benzene-sulfamide (Ref 4) with sulfuric acid. By reaction with $PCl_5$ the sulfamides thus obtained yield trichloro-phosphazo-sulfonaryls (Ref 5):
$Ar—SO_2NH_2 + PCl_5 \longrightarrow Ar—SO_2N=PCl_3$, where Ar=m-$FC_6H_4$ (I), and m-$CF_3C_6H_4$ (II). From (I) and (II) the dichloro anhydrids and the corresponding phenyl-sulfonamide-phosphoric acids were obtained by hydrolysis and acidolysis. Also the monochloro anhydrid of fluoro-phenyl-sulfonamide-phosphoric acid (Scheme 3) was separated. With alcoholates and phenolates the compounds (I) and (II) condense to ether (Tables 1,2).

Card 2/3

Fluor-containing Trichloro-phosphazo-sulfonaryls and Their Derivatives

SOV/79-29-2-42/71

The esters of n-fluoro-and m-trifluoro-methyl-sulfonamide-phosphoric acids are colorless compounds of crystalline nature. Applied as insecticides the preparations 1 and 7 specified in table 1 exhibit little activity. There are 2 tables and 5 references, 2 of which are Soviet.

ASSOCIATION: Institut organicheskoy khimii Akademii nauk USSR (Institute of Organic Chemistry of the Academy of Sciences, UkrSSR)

SUBMITTED: January 8, 1958

Card 3/3

5 (3)

AUTHORS: Yagupol'skiy, L. M., Troitskaya, V. I. SOV/79-29-7-68/83

TITLE: Cyanine Dyes Containing Fluorine (Tsianinovyye krasiteli, soderzhashchiye ftor). VII. Synthesis of Cyanine Dyes From 6-Trifluoro-methyl and 6-Trifluoro-methyl-sulfonyl-benzimidazole (VII. Sintez tsianinovykh krasiteley iz 6-triftormetil- i 6-triftormetilsul'fonilbenzimidazola)

PERIODICAL: Zhurnal obshchey khimii, 1959, Vol 29, Nr 7, pp 2409-2416 (USSR)

ABSTRACT: The cyanine dyes, derivatives of benzimidazole, are but little investigated with some exceptions (Refs 1-5). The simplest dye of this series, the 1,1',3,3'-tetramethyl-imidocarbo cyanine iodide (formula on page 2409) was first synthesized by Ogata (Ref 1) and then by A. I. Kiprianov (Ref 2). The purpose of the present paper was the synthesis of the imidocarbo cyanines which have as substituents electrophilic trifluoro-methyl groups and trifluoro-methyl-sulfonyl groups. The necessary derivatives of benzimidazole were obtained according to scheme 1 and the quaternary salts from these bases (Formula 2). From the quaternary salts the cyanine dyes were synthesized, formula and absorption maxima of which are presented in tables 1 and 2. The symmetrical imidocarbo cyanine dyes were obtained by boiling the

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quaternary salts with orthoformic acid in nitro-benzene according to A. Van Dormael (Ref 6). The introduction of the trifluoro-methyl group and trifluoro-methyl-sulfonyl group (Ref 8) into the benzthiazole nucleus of the thiacarbo-cyanine hardly changes the absorption maximum of the dye. Table 2 gives formulae and absorption maxima of two unsymmetrical cyanine dyes and two rhodocyanines. The substitution of ethyl radicals for the methyl radicals on the nitrogen atoms of the benzimidazole nucleus causes considerable changes in the absorption maximum of the imidocarbo cyanines. The synthesis of 2-methyl-3-phenyl-6-trifluoro-methyl- and 2-methyl-3-ethyl-6-trifluoro-methyl-sulfonyl-benzimidazole was thus described. These bases, like the 2-methyl-3-phenyl-6-trifluoro-ethyl-sulfonyl-benzimidazole previously described, were then transformed into quaternary salts from which 8 symmetrical imidocarbo cyanines, 2 unsymmetrical and 2 rhodocyanines were obtained. There are 3 tables and 12 references, 6 of which are Soviet.

Cyanine Dyes Containing Fluorine. VII. Synthesis of Cyanine Dyes From 6-Trifluoro-methyl and 6-Trifluoro-methyl-sulfonyl-benzimidazole

SOV/79-29-7-68/83

ASSOCIATION: Institut organicheskoy khimii Akademii nauk Ukrainskoy SSR (Institute of Organic Chemistry of the Academy of Sciences of the Ukrainian SSR)

SUBMITTED: June 5, 1958

Card 3/3

5(3)
AUTHORS: Yagupol'skiy, L. M., Troitskaya, V. I. SOV/79-29-8-63/81

TITLE: Cyanin Dyes Containing Fluorine. VIII. Synthesis of Cyanin Dyes From 4,6-Bis-(trifluoromethyl),-4-chloro-6-trifluoromethyl and 4-Chloro-6-trifluoromethylsulfonylbenzimidazole

PERIODICAL: Zhurnal obshchey khimii, 1959, Vol 29, Nr 8, pp 2730-2736 (USSR)

ABSTRACT: In a previous paper (Ref 1) the synthesis of imidocarbocyanins containing as substituents in position 6 of the benzimidazole nucleus trifluoromethyl- and trifluoromethylsulfonylgroups was described. In the present paper tetrasubstituted imidocarbocyanins of the general formula (A) were obtained. The benzimidazole derivatives which were used as initial products and the quaternary salts were synthesized according to the already described method (Ref 1). Table 1 gives formulas and absorption maxima of the symmetrical dyes in alcohol. By way of comparison the absorption maxima of the corresponding dyes which do not contain substituents in position 4 of the benzimidazole nucleus are also given. As is seen from the data of table 1, the introduction of trifluoromethyl groups into positions 4,4' of 6,6-bis-(trifluoromethyl)-imidocarbocyanin (dyes I - III) causes a shift of the absorption

Card 1/2

Cyanin Dyes Containing Fluorine. VIII. Synthesis of Cyanin Dyes From 4,6-Bis-(trifluoromethyl),-4-chloro-6-trifluoromethyl and 4-Chloro-6-trifluoromethylsulfonylbenzimidazole SOV/79-29-8-63/81

maximum towards the long waves of about 11 - 13 mμ, the introduction of the chlorine atom into the same positions a shift of only 4 mμ (dye IV) and a shift of about 3 - 6 mμ in the direction of 6,6'-bis-(trifluoromethylsulfonyl)-imidocarbocyanin (dyes V-VII). Table 2 gives formulas and absorption maxima of the 4 asymmetrical cyanin dyes. Tables 3 and 4 give the yield and melting points of symmetrical and asymmetrical dyes. There are 4 tables and 5 references, 3 of which are Soviet.

ASSOCIATION: Institut organicheskoy khimii Akademii nauk Ukrainskoy SSR (Institute of Organic Chemistry of the Academy of Sciences of the Ukrainskaya SSR)

SUBMITTED: July 10, 1958

Card 2/2

YAGUPOL'SKIY, L.M.; TROITSKAYA, V.I.

Fluorine-containing analogs of anisaldehyde and piperonal. Zhur. ob. khim. 30 no.9:3129-3132 S '60. (MIRA 13:9)
(Anisaldehyde) (Piperonal)

YAGUPOL'SKAYA, L.M.; D'YACHENKO, Ye.B.; TROITSKAYA, V.I.

p-Trichloromethylmercapto - and p-trichloromethoxybenzoic acids and their derivatives. Ukr. khim. zhur. 27 no. 1:77-[illegible] '61. (MIRA 14:4)

1. Institut organicheskoy khimii AN USSR.
(Anisic acid) (Benzoic acid)

YAGUPOL'SKIY, L.M.; TROITSKAYA, V.I.

Synthesis of derivatives of phenyl triflouromethyl ether.
Zhur. ob. khim. 31 no.3:915-924 Mr '61. (MIRA 14:3)

1. Institut organicheskoy khimii AN USSR.
(Ether)

YAGUPOL'SKIY, L.M.; TROITSKAYA, V.I.; MALICHENKO, B.F.

Synthesis of derivatives of diphenyl-α,α-difluoromethane. Zhur.ob.khim. 32 no.6:1832-1836 Je '62. (MIRA 15:6)
(Methane)

YAGUPOL'SKIY, L.M.; TROITSKAYA, V.I.

1,2-Diphenyl-1,1,2,2-tetrafluoroethane derivatives. Part 4: Amino derivatives of 1,2-diphenyl-1,1,2,2-tetrafluoroethane. Zhur. ob. khim. 35 no.9:1612-1620 S '65. (MIRA 18:10)

1. Institut organicheskoy khimii AN UkrSSR.

YAGUPOL'SKIY, L.M.; TROITSKAYA, V.I.; GRUZ, B.Ye.; KONDRATENKO, N.V.

Cyanine dyes containing fluorine. Part 12: Cyanine dyes from 5-Trifluoromethylmercapto-2-methylbenzimidazole derivatives. Zhur. ob. khim. 35 no.9:1644-1650 S '65. (MIRA 18:10)

1. Institut organicheskoy khimii AN UkrSSR.

BALABANOVA, Z.M.; ZHARIKOV, S.S.; TROITSKAYA, V.I.

Lakes of the Ural Mountains that need to be preserved and declared natural monuments. Okhr. prir. na Urale no.2:131-134 '61.
(MIRA 17:7)

PIDOPLICHKO, I.G. [Pidoplichko, I.H.]; TROITSKAYA, V.I. [Troits'ka, V.I.]

Viktor Grigor'evich Averin. Zbir. prats' Zool.muz. AN URSR no.31: 118-130 '62. (MIRA 17:2)

YAGUPOL'SKIY, L.M.; KLYUSHNIK, G.I.; TROITSKAYA, V.I.

Cyanine dyes containing fluorine. Part 11: Synthesis of cyanine dyes from fluorine derivatives of 2-methylbenzimidazole. Zhur.ob.khim. 34 no.1:307-317 Ja '64. (MIRA 17:3)

1. Institut organicheskoy khimii AN UkrSSR.

TROITSKAYA, V.I., kand.biolog.nauk

Coregonus tugun and Siberian white salmon in the rivers of Sverdlovsk Province. Okhr.prir.na Urale no.3:51-61 '62. (MIRA 16:6)

(Sverdlovsk Province--Whitefishes)
(Sverdlovsk Province--Salmon)

SOV/137-59-4-8986

Translation from: Referativnyy zhurnal, Metallurgiya, 1959, Nr 4, p 240 (USSR)

AUTHOR: Troitskaya, V.K.

TITLE: The Use of Radioactive Isotopes to Measure the Thickness of Cold-Rolled Strips

PERIODICAL: Za tekhn. progress (Sovnarkhoz Gor'kovsk. ekon. adm. r-na), 1958, Nr 6, pp 9 - 10

ABSTRACT: At the "Krasnaya Etna" Plant an installation was brought into use to measure the thickness of a steel strip (0.05 - 1 mm) during rolling process by the contactless method with the aid of isotope thickness-gages. The operational principle of the installation is based on the comparison of two beams of radioactive radiation: the one passing through the measured strip and the other which is directed into the ionization chamber directly. Ce is used as the radiation source. The compensating source is partially shielded with a movable curtain mounted on the shaft of an asynchronous reversible motor. Constant voltages of different signs are supplied to the ionization chamber collector electrodes which are interconnected; therefore the current intensity, determined from the measured

Card 1/2

The Use of Radioactive Isotopes to Measure the Thickness of Cold-Rolled Strips

thickness, and the position of the curtain passing through the resistance, switched in series with the electrodes, is equal to the difference of the ionization currents. The direct voltage, induced in the resistance, is transformed by the vibrator into alternating voltage and is, after amplification, supplied to one of the windings of the curtain motor, setting it into motion. If the curtain turns, the chamber currents are equalized. The strip thickness is determined from the turning angle of the curtain which is registered by a special tracking device. A protective screen ensures safety of the attendants.

V.D.

VINOKUROV, V.G.; TROITSKAYA, V.S.; ZAGOREVSKIY, V.A.

Spectral colors in the series of derivatives of 2-chromonecarboxylic acid. Zhur.ob.khim. 31 no.9:2901-2995 S '61. (MIRA 14:9)

1. Institut farmakologii i khimioterapii Akademii meditsinskikh nauk SSSR.

(Chromonecarboxylic acid--Spectra)

VINOKUROV, V.G.; TROITSKAYA, V.S.; GRANDBERG, I.I.

Pyrazoles. Part 41: Infrared spectra and tautomerism in the amino-pyrazole series. Zhur.ob.khim. 34 no.2:654-660 F '64. (MIRA 17:3)

1. Institut farmakologii i khimioterapii AMN SSSR i Moskovskiy gosudarstvennyy universitet imeni M.V.Lomonosova.

VINOKUROV, V.G.; TROITSKAYA, V.S.; GRANDBERG, I.I.; PENTIN, Yu.A.

Pyrazoles. Part 39: Structure and tautomerism of hydroxypyrazoles
Zhur. ob. khim. 33 no.8:2597-2605 Ag '63. (MIRA 16:11)

1. Moskovskiy gosudarstvennyy universitet imeni M.V. Lomonosova.

VINOKUROV, V.G.; TROITSKAYA, V.S.; ZAGOREVSKIY, V.A.

Absorption spectra of derivatives of 2-chromonecarboxylic acid in the ultraviolet and visible. Zhur. ob. khim. 31 no.4: 1079-1082 Ap '61. (MIRA 14:4)

1. Institut farmakologii i khimioterapii Akademii meditsinskikh nauk SSSR.

(Benzopyrancarboxylic acid--Spectra)

VINOKUROV, V.G.; TROITSKAYA, V.S.; KOCHETKOV, N.K.

Cycloserine and related compounds. Part 11: Infrared spectra of 3-isoxazolidinones. Zhur. ob. khim. 31 no.1:205-210 Ja '61. (MIRA 14:1)

1. Institut farmakologii i khimioterapii Akademii meditsinskikh nauk SSSR.

(Isoxazolidinone--Spectra)

KUZNETSOVA, Ye.A.; SVETLAYEVA, V.M.; ZHURAVLEV, S.V.; VINOKUROV, V.G.; TROITSKAYA, V.S.; Prinimala uchastiye SOLOKHINA, N.D.

Synthesis and properties of 2-mercaptobensothiazole derivatives. Part 1: Some S-substituted 2-mercaptobenzothiazoles and their sulfones. Zhur.ob.khim. 32 no.9:3007-3011 S '62. (MIRA 15:9)

1. Institut farmakologii i khimioterapii AMN SSSR.
(Benzothiazole) (Sulfones)

VINOKUROV, V.G.; TROITSKAYA, V.S.; SOLOKHINA, N.D.; GRANDBERG, I.I.

Pyrazoles. Part 31: Infrared spectra of 4-acylpyrazoles, their salts and metal derivatives. Zhur.ob.khim. 33 no.2: 506-511 F '63. (MIRA 16:2)

1. Institut farmakologii i khimioterapii AMN SSSR i Moskovskiy gosudarstvennyy universitet im. M.V.Lomonosova.
(Pyrazole--Absorption spectra)

VINOKUROV, V.G.; TROITSKAYA, V.S.; GRANDBERG, I.I.

Pyrazoles. Part 44: Tautomerism of hydroxy and amiro-pyrazole systems, classification of intramolecular effects and structure of bifunctional pyrazole derivatives. Zhur. ob. khim. 35 no.7: 1288-1293 Jl '65. (MIRA 18:8)

1. Institut farmakologii i khimioterapii AMN SSSR i Moskovskiy gosudarstvennyy universitet.

SHKOL'NIK, M.Ya.; TROITSKAYA, Ye.A.; MAYEVSKAYA, A.N.

Reproducing with the aid of 8-azaguanine morphological changes in sunflowers characteristic of boron deficiency. Fiziol. rast. 12 no.5:876-887 S-O '65. (MIRA 19:1)

1. Botanicheskiy institut imeni Komarova AN SSSR, Leningrad.

TROITSKAYA, Ye.A.

Eigenvalues and eigenvectors of completely continous operators.
Izv. vys. ucheb. zav.; mat. no.3:148-156 '61. (MIRA 14:7)

1. Leningradskoye otdeleniye Matematicheskogo instituta imeni V.A. Steklova.
(Eigenvalues) (Functional analysis) (Operators (Mathematics))

TROITSKAYA, Ye. A.

15-1957-6-7438D

Translation from: Referativnyy zhurnal, Geologiya, 1957, Nr 6, p 26 (USSR)

AUTHOR: Troitskaya, Ye. A.

TITLE: Upper Jurassic Ammonites of the Volga Pravoberezhe (Right Shore District) Near Saratov /Verkhneyurskiye ammonity Saratovskogo pravoberezh'ya r. Volgi (Cardioceratidae, Macrocephalitidae, Aspidoceratidae, Harpoceratidae) i ikh stratigraficheskoye znacheniye/

ABSTRACT: Bibliographical entry

ASSOCIATION: Avtoref. diss. kand. geol-min. n., Saratovsk. un-t (University of Saratov), Saratov, 1954.

Card 1/1

TROITSKAYA, Ye.A.

Some applications of the general theory of approximation methods to the problem of characteristic elements of nonlinear operators. Sib. mat. zhur. 2 no.3:454-466 My-Je '61. (MIRA 14:7)
(Approximate computation) (Operators (Mathematics))

TROITSKAYA, Ye.A.

Ammonites from Volga sediments of the trans-Volga portion of Saratov Province. Uch.zap. SGU 74:53-65 '60. (MIRA 15:7)
(Saratov Province--Ammonoidea)

TROITSKAYA, YE. A.

20-5-14/67

AUTHOR TROITSKAYA, Ye.A.

TITLE The Application of the General Theory of Approximation Methods To the Investigation of the Problem of the Determination of Eigenvalues and Eigenvectors.
(Primeneniye obshchey teorii priblizhennykh metodov k issledovaniyu zadachi ob opredelenii sobstvennykh chisel i sobstvennykh vektorov. -Russian)

PERIODICAL Doklady Akademii Nauk SSSR, 1957, Vol 113, Nr 5, pp 998-1001(U.S.S.R.)
Received 6/1957 Reviewed 7/1957

ABSTRACT The author here examines two totally steady operators: A in the linear, normalized space X and $\overline{A}$ in the complete linear normed space $\overline{X}$. These operators are connected as follows: A subspace X exists in space $\tilde{X}$, which is isomorpheus with respect to $\overline{X}$. The isomorphism is realized by the linear operation $\varphi_0$ which has the inverse $\varphi_0^{-1}$. The operation $\varphi_0$ permits the propagation of $\varphi$ over the entire space X. The following conditons are satisfied:
I. For each $\tilde{x} \in X$, $\| \varphi A\tilde{x} - \overline{A}\varphi\tilde{x} \| \leqslant \| \tilde{x} \|$ applies.
II. For each $x \in X$, $\tilde{x} \in \overline{X}$ can be determined in such amanner, that $\| Ax - \tilde{x} \| \leqslant \varepsilon_1 \| x \|$ applies.
The simple eigen number $\lambda_0$, the eigen element $x_0$ of the operator A, and the eigen element $f_0$ of the adjointed operator $A^*$ are assumed to be known. $f_0(x_0) = 1$ is then assumed to apply and therefore the pair $\lambda_0, x_0$ is a solution of the system $Ax - \lambda x = 0$.

Card 1/2

The Application of the General Theory of Approximation 20-5-4/57
Methods To the Investigation of the Problem of the determination
of Eigenvalues and Eigenvectors.

If the space U is introduced, the elements of which are the pairs $u = \begin{pmatrix} u \\ \lambda \end{pmatrix}$, then this system may be written down in form of only one nonlinear functional equation in the space U. This solution may then be solved as suggested by L.V.KANTOROVICH, by means of the analogy of NEWTON'S method for the solution of functional equations. Carrying out of the computations and the corresponding theorems is discussed.
(No illustrations)

ASSOCIATION Leningrad Department of the Mathematical Institute "V.A.STEKLOV" of the Academy of Science of the U.S.S.R.
PRESENTED BY SMIRNOV V.I., Member of the Academy
SUBMITTED 5.11.1957
AVAILABLE Library of Congress
Card 2/2

KAMYSHEVA-YELPAT'YEVSKAYA, V.G.; NIKOLAYEVA, V.P.; TROITSKAYA, Ye.A.; KOROBKOV, I.A., nauchnyy red.; DESHALYT, M.G., vedushchiy red.; GENNAD'YEVA, I.M., tekhn.red.

[Stratigraphy and fauna of Jurassic and Cretaceous sediments in the Volga Valley portion of Saratov Province] Stratigrafiia i fauna iurskikh i melovykh otlozhenii Saratovskogo Povolzh'ia. Leningrad, Gos.nauchn.-tekh.izd-vo neft.i gornotoplivnoi lit-ry. Leningr.otd-nie. 1959. 524 p. (Leningrad. Vsesoiuznyi neftianoi nauchno-issledovatel'skii geologorazvedochnyi institut. Trudy, no.137). (MIRA 13:2)
(Saratov Province--Geology, Stratigraphic)

TROITSKAYA, Ye.N.

Algae found on certain irrigated cliffs in Uzbekistan. Dokl. AN Uz. SSR no.1:55-58 '58. (MIRA 11:5)

1. Institut botaniki AN UzSSR. Predstavleno chlenom-korrespondentom AN UzSSR I.A. Raykovoy.
(Uzbekistan--Algae)

TROITSKAYA, Ye. A.

"Upper Jurassic Ammonites of the Saratov Right Banks of the Volga River (Cardioceratidae, Macrocephalitidae, Macrocephalitidae, Aspidoceratidae, Harpoceratidae) and Their Stratigraphic Significance." Cand Geol-Min Sci, Saratov State U, Saratov 1954. (RZhGeol, Apr 55)

SO: Sum. No. 704, 2 Nov 55 - Survey of Scientific and Technical Dissertations Defended at Ussr Higher Educational Institutions (16).

NIKOLAYEVA, V.P.; TROITSKAYA, Ye.A.

Stratigraphy of Upper Jurassic sediments in the Unzha Basin. (MIRA 16:1)
Uch.zap.SGU 65:95-98 '59.
(Unzha Valley (Kostroma Province)--Geology, Stratigraphic)

TROITSKAYA, YE. A.

Dissertation defended in the Botanical Institute imeni V. L. Komarov for the academic degree of Candidate of Biological Sciences:

"Relationship Between Boron and Nucleic Metabolism in Plants."

Vestnik Akad Nauk No. 4, 1963, pp. 119-145

KAMYSHEVA-YELPAT'YEVSKAYA, Vera Grigor'yevna; NIKOLAYEVA, Vera Pavlovna; TROITSKAYA, Yelena Alekseyevna; ROSSOVA, S.M., redaktor izdatel'stva; KRYNOCHKINA, K.V., tekhnicheskiy redaktor

[Guide to Jurassic ammonites of the Saratov region of the Volga Valley] Opredelitel' iurskikh ammonitov Saratovskogo povolzh'ia. Moskva, Gos. nauchno-tekhn. izd-vo lit-ry po geol. i okhrane nedr, 1956. 59 p. (MLRA 9:7)
(Saratov Province--Ammonoidea)

TROITSKAYA, Ye.G., uchitel'nitsa

Preparing percent concentration solutions. Khim. v shkole 17 no.3:55-58 My-Je '62. (MIRA 15:6)

1. Srednyaya shkola No.53, st.Timashevskaya, Severo-Kavkazskoy zheleznoy dorogi.

(Solution (Chemistry))
(Chemistry--Study and teaching)

TROITSKAYA, Ye.G., uchitel'nitsa

Familiarizing students with agricultural poisons and their use. Khim.v shkole 14 no.3:74-77 My-Je '59. (MIRA 12:9)

1. Srednyaya shkola No.53 st.Timashevskaya Severo-Kavkazskoy zh.d.

(Agricultural chemicals)

TROITSKAYA, Ye.G. (st.Timashevskaya Krasnodarskogo kraya).

Meeting devoted to the discussion of "Chemistry for Agriculture". Khim. v shkole 11 no.4:52-59 Jl '56. (MLRA 9:9)
(Agricultural chemistry--Study and teaching)

TROITSKAYA, Ye.N.

Some data on the algae of the cotton fields of Uzbekistan. (MIRA 11:5)
Dokl. AN Uz. SSR no.4:55-57 '57.

1. Institut botaniki AN UzSSR. Predstavleno akad. AN UzSSR Ye.P. Korovinym.
(Uzbekistan--Algae)

TROITSKAYA, Ye.N., uchitel'nitsa (g.Moskva)

Work of young naturalists in indoor floriculture. Biol. v shkole no. 6:65-67 N-D '60. (MIRA 14:1)
(Floriculture--Study and teaching)

TROITSKAYA, Ye. N.

TROITSKAYA, Ye.N.

School experimental work with indoor plants. Est. v shkole no.5: 86-88 S-O '54. (MLRA 7:9)

1. Uchitel'nitsa shkoly No. 600 g. Moskvy.
(Botany--Study and teaching)

TROITSKAYA, Ye. P., BUNIN, K. P. and KHITRIK, S. N.

"Effect of Individual Elements on the Thermal Stability of White Iron," Stal', No.5, 1945, pp. 417-19.

Evaluation B-59-660

SOV/28-58-6-31/34

AUTHORS: Petrov, V.N., Troitskaya, Ye.V.

TITLE: Production Brands and Commodity Signs (Proizvodstvennyye marki i tovarnyye znaki)

PERIODICAL: Standartizatsiya, 1958, Nr 6, pp 87-88 (USSR)

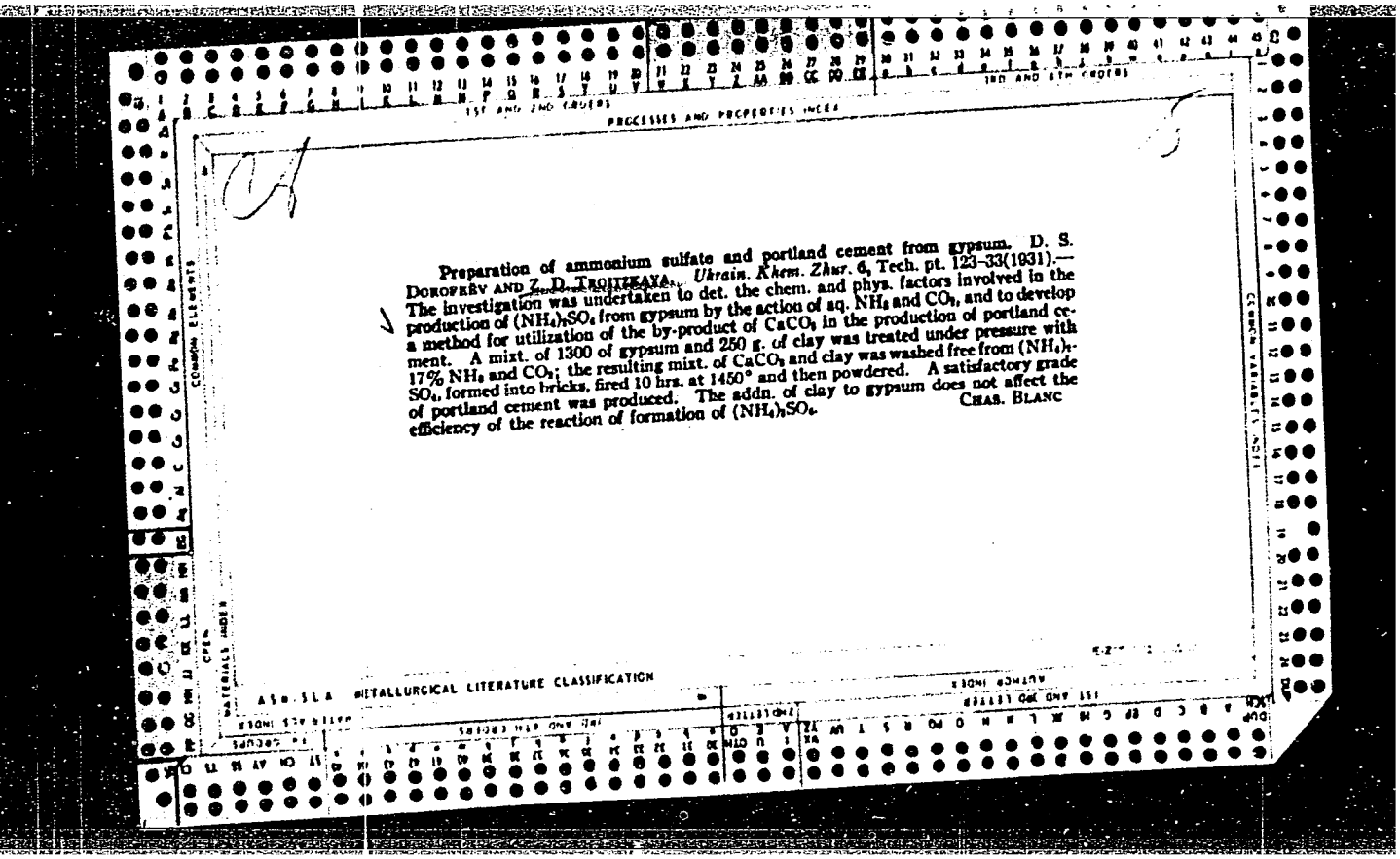
ABSTRACT: The difference between production brands and commodity signs according to the regulations of Soviet law is explained. There is 1 set of drawings.

Card 1/1

PETROV, V.N.; TROITSKAYA, Ye.V.

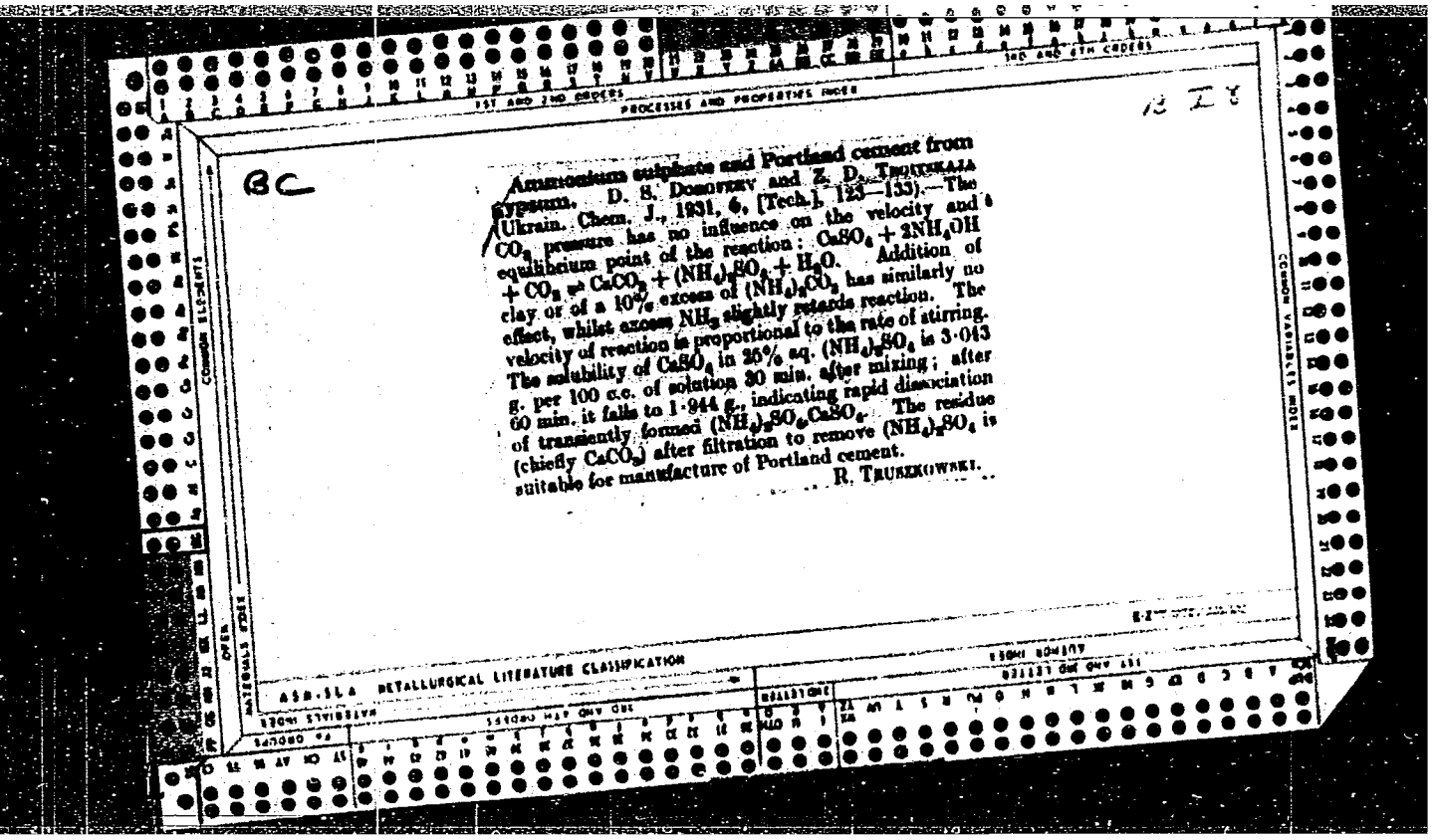
Production brands and trade-marks. Standartizatsiia 22 no.6:87-88 N-D '58. (MIRA 11:12)

(Trade-marks)



Preparation of ammonium sulfate and portland cement from gypsum. D. S. DOROFEEV AND Z. D. TROITSKAYA. *Ukrain. Khem. Zhur.* 6, Tech. pt. 123–33(1931).—The investigation was undertaken to det. the chem. and phys. factors involved in the production of $(NH_4)_2SO_4$ from gypsum by the action of aq. $NH_3$ and $CO_2$, and to develop a method for utilization of the by-product of $CaCO_3$ in the production of portland cement. A mixt. of 1300 of gypsum and 250 g. of clay was treated under pressure with 17% $NH_3$ and $CO_2$; the resulting mixt. of $CaCO_3$ and clay was washed free from $(NH_4)_2SO_4$, formed into bricks, fired 10 hrs. at 1450° and then powdered. A satisfactory grade of portland cement was produced. The addn. of clay to gypsum does not affect the efficiency of the reaction of formation of $(NH_4)_2SO_4$.

CHAS. BLANC



BC

Ammonium sulphate and Portland cement from gypsum. D. S. Domonyev and Z. D. Truskaja (Ukrain. Chem. J., 1931, 6, [Tech.], 125—135).—The $CO_2$ pressure has no influence on the velocity and equilibrium point of the reaction: $CaSO_4 + 2NH_4OH + CO_2 \rightleftharpoons CaCO_3 + (NH_4)_2SO_4 + H_2O$. Addition of clay or of a 10% excess of $(NH_4)_2CO_3$ has similarly no effect, whilst excess $NH_3$ slightly retards reaction. The velocity of reaction is proportional to the rate of stirring. The solubility of $CaSO_4$ in 25% aq. $(NH_4)_2SO_4$ is 3·043 g. per 100 c.c. of solution 30 min. after mixing; after 60 min. it falls to 1·944 g., indicating rapid dissociation of transiently formed $(NH_4)_2SO_4CaSO_4$. The residue (chiefly $CaCO_3$) after filtration to remove $(NH_4)_2SO_4$ is suitable for manufacture of Portland cement.

R. Truszkowski.

TROITSKAYA, Z.
TROYTSKAYA, Z.

Moscow - Subways.

New stations of the Moscow subway. Sov.zhen. 8, no. 2, 1952.

9. Monthly List of Russian Accessions, Library of Congress, August 1952. Uncl.

TROITSKAYA, Z. P.
25769

Zkeleznodorozhnitsy. (O Roli Zhenshchiny Na Zh. - D. Transporte).
-Sportr. Avotra. Sov. Zhenshchina, 1948, No 4, S. 10-11
Sm. Takzhe No No 25562-25803

SO: LETOPIS NO. 30, 1948

TROITSKAYA, Z

THE L. M. KAGANOVICH METROPOLITAN RAILWAY OF MOSCOW.
MOSCOW, FOREIGN LANGUAGES PUBLISHING HOUSE, 1955.
L V. (UNPAGED) ILLUS.

ON COVER PAGE: MOSCOW'S METRO.

TROITSKAYA, Z., kand.tekhn.nauk

Electric spark strengthening of rolling stock parts. Zhel.dor. transp. 36 no.5:84-85 My '55. (MIRA 12:5)
(Railroads--Electric equipment)
(Railroads--Rolling stock--Maintenance and repair)

L 16799-63 EPA/EPR/EPF(c)/EWT(m)/BDS AFFTC/ASD/APGC Paa-4/Ps-4/ 16 75
Pr-4 BW/WW/DJ
ACCESSION NR: AP3006475 S/0145/63/000/004/0058/0079

AUTHOR: Berger, Ye. G. (Candidate of technical sciences, Assistant); Kel'zon, A. S. (Candidate of technical sciences, Docent); Pryadilov, V. I. (Docent); Smirnova, O. Ye. (Engineer); Troitskaya, Z. V. (Engineer); Shpeyzman, R. L. (Engineer)

TITLE: Investigating vibrations of a system of coaxial rotors

SOURCE: IVUZ. Mashinostroyeniye, no. 4, 1963, 58-79

TOPIC TAGS: aircraft turbine, gas turbine, self centering, self aligning, turbine compressor, free turbine, rotor, coaxial rotor, high speed turbine, vibration, elastic bearing, rigid bearing, damped bearing, critical revolution, vibration amplitude, vibration free

ABSTRACT: The object of the investigation was the self-aligning dynamic conditions in aviation gas turbine engines, consisting of a compressor, a compressor turbine, and a free turbine. The system investigated consisted of an aircraft gas turbine engine with an

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ACCESSION NR: AP3006475

8-stage axial compressor flexibly coupled with the turbine and a free turbine. The free turbine was mounted coaxially with the compressor turbine (Fig. 2) but rotated independently. The engine operated in the range of 25,000 to 45,000 rpm. The compressor and turbine used the full range of operational velocities; the free turbine did not exceed 25,000 rpm. The experimental study was made with an 8-stage compressor having a rigid horizontal shaft on two bearings — either or both elastic or rigid. The various relationships derived are presented graphically in Figs. 3-5. It is shown that self-aligning conditions may be achieved by adequate design of the rigid and elastic bearings. Self-aligning may occur in coaxial rotors of any type after passing the critical speed. Apart from the system shown in Fig. 6 of the Enclosure, other self-aligning systems exist. It is characteristic of these systems that both bearings situated between the coaxial rotors are rigid and the mounting of the system to the stationary turbine body secures 4 degrees of freedom without counting the rotor revolution. In this category of coaxial rotors, the amplitudes of vibrations increase

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ACCESSION NR: AP3006475

slightly during passage through the critical speed and because of self-alignmnet sharply diminish thereafter, which ensures a wide range of vibration-free operational velocities. Orig. art. has: 43 formulas and 8 figures.

ASSOCIATION: none

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| SUBMITTED: 00 | DATE ACQ: 30Sep63 | ENCL: 03 |
| SUB CODE: PR | NO REF SOV: 007 | OTHER: 001 |

Card 3/3

KABALKINA, S.S.; TROITSKAYA, Z.V.

Studying the structure of cadmium sulfide at high pressures to 90 kilobars. Dokl. AN SSSR 151 no.5:1068-1070 Ag '63. (MIRA 16:9)

1. Institut fiziki vysokikh davleniy AN SSSR. Predstavleno akademikom N.V.Belovym.
(Cadmium sulfide) (High-pressure research)

L 14383-65 EWT(1)/EWT(m)/EPF(c)/EPF(n)-2/EWA(d)/EPR/EWP(t)/EWP(k)/EWP(b) Pz-6/Pf-4/Pr-4/Ps-4/Pu-4 IJP(c)/AFWL/ASD(a)-5/AEDC(a)/SSD/AFTC(p) JD/
ACCESSION NR: AP4047943 MW/HW/GG S/0020/64/158/005/1061/1063

AUTHORS: Vereshchagin, L. F. (Corresponding member AN SSSR); Kabalkina, S. S.; Troitskaya, Z. ..

TITLE: Effect of high pressure on the structure of gallium and indium

SOURCE: AN SSSR. Doklady*, v. 158, no. 5, 1964, 1061-1063

TOPIC TAGS: indium, gallium, high pressure research, crystal structure analysis, x ray structure analysis

ABSTRACT: An x-ray diffraction study was made of the structure of gallium at pressure 30--40 kbar and indium up to 110 kbar. The special x-ray camera used was described elsewhere (DAN, v. 151, no. 5, 1068, 1963). The pressure was calibrated accurate to ±3--5 kbar against the electric resistivity jumps in bismuth during its 3-phase transitions. The structure of gallium under pressure goes over into

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L 14383-65
ACCESSION NR: AP4047943

the structure of indium, thus confirming a general rule that holds for group IVB and VB metals that under pressure change to a close-packed element tends to assume the same type of structure as the element below it in the periodic table. In the case of In, the structure of which can be obtained by stretching a face centered cube along the four-fold axis. [illegible] Instead of decreasing from [illegible], the ratio c/a first increases to 1.088, and starts decreasing only at pressures above 100 kbar. If this distortion is to be eliminated, the pressure would have to be raised much higher. Orig. art. has: 4 figures and 2 tables.

ASSOCIATION: Institut fiziki vy*sokikh davleniy Akademii nauk SSSR (Institute of High Pressure Physics, Academy of Sciences SSSR)

SUBMITTED: 25Jun64 ENCL: 00

SUB CODE: ME, SS NR REF SOV: 001 OTHER: 009

Card 2/2

KEL'ZON, A.S. (Leningrad); TROITSKAYA, Z.V. (Leningrad)

Self-centering and balancing of a high-speed compressor. Izv.AN SSSR.Otd.tekh.nauk.Mekh.i mashinostr. no.3:51-57 My-Je '63. (MIRA 16:8)

(Compressors)

KABALKINA, S.S.; TROITSKAYA, Z.V.

X-ray diffraction study of the normal paraffin $C_{34}H_{70}$ under a pressure of 16,000 kg./cm 2. Zhur. strukt. khim. 2 no. 1:27-32 Ja-F '61. (MIRA 14:2)

1. Institut fiziki vysokikh davleniy AN SSSR.
(Tetratriacontane--Spectra)

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TITLE: Radiographic study of n-paraffin $C_{34}H_{70}$ at pressures of up to 16,000 kg/cm$^2$

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TEXT: The design of the camera used is described in Ref. 1 (S. S. Kabalkina, L. F. Vereshchagin; Dokl. AN SSSR, 131, no. 2, 300, (1960)). The sample was put into a beryllium cone and covered with a thin layer of lithium. The pressure was transmitted by benzene and measured with a manganin pressure gauge (± 100 kg/cm$^2$). The X-ray pictures were taken with X-ray tubes fitted with a copper anode. The camera had a diameter of 86 mm. The authors found that at high pressures the rhombic modification (R) of n-$C_{34}H_{70}$ partly passes into a triclinic modification (T). This transformation is irreversible at low pressures. The compressibility of the rhombic modification was calculated: for the range of up to 16,000 kg/cm$^2$, the following equations hold:

$$\Delta a/a = 74\cdot10^{-7}\,P - 140\cdot10^{-12}\,P^2,$$
$$\Delta b/b = 70\cdot10^{-7}\,P - 150\cdot10^{-12}\,P^2.$$

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(cf. Figs. 2 and 3). The authors also calculated the intermolecular distances H ... H in the n-$C_{34}H_{70}$ crystal at various pressures (Table 3). For this purpose, the following values were assumed: C-H 1.12 A (Ref. 5: B. K. Vaynshteyn, A. I. Lobachev, M. M. Stasova, Kristallografiya, 3, 452 (1958)), C-C 1.53 A; distance between the C atoms in the chain which are not bound by valency - 2.54 A, $\varphi_b = 41.2^\circ$, $\varepsilon = 112^\circ$ (Ref. 6: P. W. Teare. Acta crystallogr., 12, 294 (1959)). Further investigations dealt with the formation of the triclinic phase.. Mixtures of n-$C_{34}H_{70}$ and n-$C_{20}H_{42}$ served as standard series for the quantitative evaluations of the X-ray pictures. The intensities of line (110) for the R phase, and those of the line with d = 3.56 A for the T phase were measured. The dependence on the concentration of the T phase is shown in Fig. 4. Since the peaks are laterally overlapping, the heights of the peaks of the photometric curves were measured. Formation of the T phase begins at 5,000 kg/cm$^2$; at 12,000 kg/cm$^2$, its fraction amounts to about 40%, at 14,000 kg/cm$^2$, it is about 50%. From one

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sample, the authors obtained: 10% at 5,200 kg/cm$^2$, 20% at 9,800 kg/cm$^2$, and 50% at 14,500 kg/cm$^2$. In some cases, the fraction of the T phase reached even 65% at 6,000-8,000 kg/cm$^2$. Since the T phase is stable at p = 1 atm and room temperature, the authors assume that the difference of the free energy between R and T is very small. The T phase vanishes on heating. The activation energy T → R was determined and found to be U = 16 ± 4 kcal/mole (Fig. 6). For this purpose, the samples were kept in the thermostat for half an hour at a certain temperature; the concentration of T was radiographically determined at the beginning and after the experiment. A comparison of the experimental results of n-$C_{34}H_{70}$ with previous data on n-$C_{30}H_{62}$ and n-$C_{32}H_{66}$ (Ref. 2: S. S. Kabalkina. Dokl. AN SSSR, 125, 114 (1959)), shows that the latter apparently only occur in the R modification. It is, however, possible that this discrepancy is due to a different action of pressure since the authors of Ref. 2 used a different experimental unit. To check this assumption, the authors of the present paper again investigated samples of n-$C_{30}H_{62}$ and n-$C_{32}H_{66}$ and found that in both samples a partial formation of the T phase occurred. Apart from the mere hydrostatic pressure in the

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experimental unit, also the wall pressure of the plastically deformed beryllium acted upon the sample, which favored the formation of the T phase. The formation of the T phase of $n\text{-}C_{30}H_{62}$ and $n\text{-}C_{32}H_{66}$ is reversible. The different purity of the samples may serve as an explanation for this phenomenon. It might, however, also be that the residual effect is influenced by the potential barrier of the transition T → R, which increases with increasing number of atoms. The authors thank Corresponding Member L. F. Vereshchagin for discussion, and V. G. Gorshkova for assistance. There are 9 figures, 6 tables, and 7 references: 5 Soviet-bloc. The two references to English language publications read as follows: A. Müller, Proc. Roy. Soc., A 127, 417 (1930); P. W. Teare, Acta crystallogr., 12, 294 (1959).

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Figs.2 and 3: Dependence of the linear compressibility $\Delta a/a$ and $\Delta b/b$ of n-$C_{34}H_{70}$ on pressure. (x) P, kg/cm$^2$.

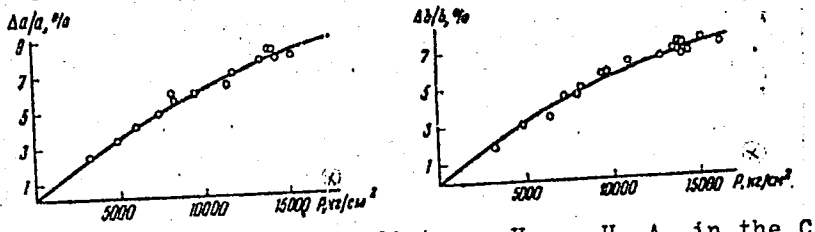


Table 3: Shortest intermolecular distances H ... H, A, in the $C_{34}H_{70}$ crystal at high pressures (for denotations cf. Ref. 7: A. I. Kitaygorodskiy, Yu. V. Myunkh. Dokl. AN SSSR, 121, no. 2, 291 (1958)).
Legend: 1) atom; 2) pressure, kg/cm$^2$.

| (1) Атомы | (2) Давление, кг/см² | | | | | | |
|---|---|---|---|---|---|---|---|
| | 3000 | 6100 | 8000 | 10700 | 12000 | 13400 | 15500 |
| $H_1 \ldots H_{II}$ | 2,40 | 2,30 | 2,25 | 2,23 | 2,20 | 2,18 | 2,16 |
| $H_2 \ldots H_{II}$ | 2,83 | 2,72 | 2,68 | 2,64 | 2,67 | 2,63 | 2,61 |
| $H_3 \ldots H_{II}$ | 2,41 | 2,30 | 2,24 | 2,21 | 2,19 | 2,20 | 2,14 |

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Figure 4: Dependence of $I_R/I_T$ on the concentration of the T phase ($C_T$, %) in the mixture R + T.

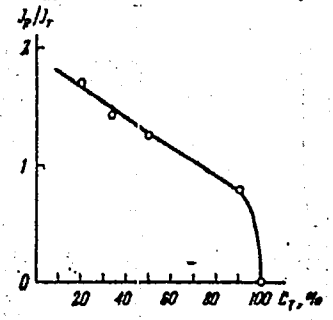
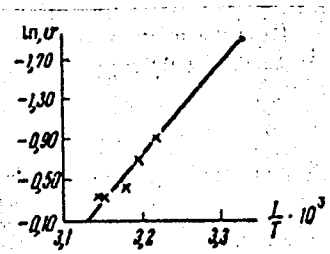



Figure 6: Dependence of ln v on 1/T.
v is the transition rate T → R.

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